



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,300	08/15/2006	Pierre Kaufmann	06290/0204213-US0	7096
7278	7590	08/26/2008	EXAMINER	
DARBY & DARBY P.C. P.O. BOX 770 Church Street Station New York, NY 10008-0770			MULL, FRED H	
		ART UNIT	PAPER NUMBER	
		3662		
		MAIL DATE		DELIVERY MODE
		08/26/2008		PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,300	KAUFMANN, PIERRE	
	Examiner	Art Unit	
	FRED H. MULL	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 07 August 2008.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-33 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1,3-6,14-17,22,23,28,30,31 and 33 is/are rejected.
 7) Claim(s) 2,7-13,18-21,24-27,29 and 32 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 07 August 2008 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Specification

1. The specification are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) from the drawings: 6. The control unit is referred to by reference number 3 in the specification. These usages should be replaced by 6 to be consistent with the new drawing. Note that references to the auxiliary control units should remain 3. The examiner notes that applicant was requested to amend the specification to be consistent with the drawing in the previous Office Action. Applicant is encouraged to provide complete responses to the Office in order to expedite the prosecution of applicant's application.

Claim Objections

2. Claims 1, 3, 22, 24, and 25 are objected to because of the following informalities:

In order to clarify the different uses of the term "trajectory":

In claim 1, lines 7 and 21, --space platform-- should be inserted before "trajectory".

In claim 1, lines 14 and 19, --signal-- should be inserted before "trajectory".

Analogous corrections should be made to the remaining claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3-6, 14-17, 22, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by IDS document Chang.

In regard to claims 1 and 22, Chang discloses:

a first, a second, and a third base (R_1 , R_2 , R_3 , Fig. 1; col. 1, lines 66-67; col. 3, lines 7-13), which are fixed in relation to the earth (col. 12, lines 21-23), but spaced away and not aligned in relation to each other (col. 9, lines 36-38 and 47-51) and each having a previously known location (p. 1, line 67);

a space platform (R_0 ; col. 1, lines 65-66), simultaneously visible from the fixed bases and which moves to successive positions, as a function of time, according to a space platform trajectory that is inclined in relation to the rotation axis of the earth (col. 4, lines 27-29);

a transmitter, installed in at least one of the fixed bases and operatively associated with each of the parts defined by the fixed bases and the space platform, said transmitter emitting pulses in a determined frequency, each pulse in a predetermined reference instant (a_1 , arrowhead toward R_0 ; col. 2, lines 1-3; col. 3, lines 45-50);

a receiver for each of the fixed bases, each receiver being installed in one of the fixed bases and operatively associated with each fixed base and with the transmitter and the space platform, in order to receive said pulse in a signal trajectory covering the

distance between the space platform and the fixed base associated with the receiver (a₂, arrowhead from R₀, a₁, a₃; col. 2, lines 1-3; col. 3, lines 45-50); and

a control unit operatively connected to both the transmitter and the receiver (col. 3, lines 40-41; col. 4, lines 1-19), in order to calculate, for each pulse emission instant, the lateral edges of a tetrahedron, whose vertices are defined by the three fixed bases, based upon the determination of the propagation time of each pulse, in said signal trajectory between the space platform and each fixed base in order to allow determining a respective extension of the space platform trajectory of the space platform, while the latter is visible by the fixed bases, the tetrahedron edges being obtained with the time differences between the instant of the emission of each pulse and the instant of the arrival at each fixed bases (a₁, a₂, a₃; col. 5, lines 43-61), where the six tetrahedron edges are a₁, a₂, a₃, R₁-R₂, R₂-R₃, and R₃-R₁ and the four tetrahedron vertices are R₁, R₂, R₃, and R₀.

In regard to claim 3, Chang further discloses:

another transmitter installed in the second fixed base (B) in order to emit pulses in a determined frequency, each pulse in the same predetermined reference instant of each pulse emitted by the transmitter provided in the first fixed base and containing identification of the second fixed base and of the emission instant of said pulse (col. 4, lines 1-19), where R₂ has a transmitter to transmit in response to receiving R₁'s signal through R₃;

another receiver provided in the third fixed base in order to receive and identify the pulses sent by the second fixed base and transmitted by the space platform (col. 4,

lines 1-19, where R_1 also has a receiver, and claim 1 only required one receiver, the one in R_3) the control unit calculating, , for each pulse emission instant, the lateral edges of a tetrahedron, whose vertices are defined by the three fixed bases, based upon the determination of the propagation time of each pulse, between the space platform and each fixed base in order to allow determining a respective extension of the trajectory of the space platform, while the latter is visible by the fixed bases (a_1, a_2, a_3 ; col. 5, lines 43-61), where the six tetrahedron edges are $a_1, a_2, a_3, R_1-R_2, R_2-R_3$, and R_3-R_1 and the four tetrahedron vertices are R_1, R_2, R_3 , and R_0 .

In regard to claims 4-5, Chang further discloses that the control unit is operatively connected to the second and to the third fixed bases through other respective communication means provided in each one of said fixed bases (col. 4, lines 1-19), where R_2 and R_3 have transmitters that allow them to communicate to control unit 16 via R_0 and R_1 . Control unit 16 is directly connected to R_1 .

In regard to claim 6, Chang further discloses that each of the first, the second and the third fixed bases is provided with a respective control unit, said control units defining the other communication devices and being operatively connected to another control unit remote in relation to those of said fixed bases (col. 3, lines 12-33), where the devices listed as RNs each have their own processor.

In regard to claim 14, Chang further discloses that the fixed bases are situated on the earth's surface (col. 12, lines 21-23).

In regard to claims 15-17, Chang further discloses that the control unit calculates, based on the time differences of propagation of each pulse between the space platform

and a corresponding fixed base, for consecutive pulses, the equation of motion of the space platform (col. 6, lines 30-35; col. 12, line 1 to col. 13, line 18).

In regard to claim 33, Chang further discloses that it includes steps for correcting the time delays in the transmission of pulses through the communication device (col. 4, lines 50-53).

4. Claims 22-23, 28, and 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Knight.

In regard to claim 22, Knight discloses:

a first, a second, and a third base (10, 20, Fig. 1), which are fixed in relation to the earth, but spaced away and not aligned in relation to each other and each having a previously known location (abstract; col. 4, lines 62-67);

a space platform, visible from the fixed bases and which moves to successive positions, as a function of time, according to a trajectory that is inclined in relation to the rotation axis of the earth (col. 6, line 62 to col. 7, line 11; col. 7, lines 36-50);

a transmitter, operatively associated with each of the parts defined by the fixed bases and the space platform, said transmitter emitting pulses in a determined frequency, each pulse in a predetermined reference instant (10);

a receiver operatively associated with each fixed base (20); and

a control unit which is operatively connected to both the transmitter and the receiver (50), in order to calculate, for each pulse emission instant, the lateral edges of a tetrahedron, whose vertices are defined by the three fixed bases, based upon the

determination of the propagation time of each pulse, between the space platform and each fixed base in order to allow determining a respective extension of the trajectory of the space platform, while the latter is visible by the fixed bases (20; abstract, line 7; col. 5, lines 1-20), where the six tetrahedron edges are the lines connecting each of 20 and the ranges from them to the satellite, and the four tetrahedron vertices are each of 20 and the satellite.

In regard to claim 23, Knight further discloses that the transmitter is installed in the first fixed base (10) in order to emit pulses in a determined frequency, each pulse in a predetermined reference instant and containing identification of said first fixed base and of the emission instant of said pulse (col. 5, lines 51-54; col. 6, lines 34-44) , each pulse being transmitted to all fixed bases through a communication device provided in the space platform (col. 4, lines 47-50).

In regard to claims 4-5, Knight further discloses that the control unit is operatively connected to the second and to the third fixed bases through other respective communication means provided in each one of said fixed bases (Fug. 1), where 20 communicate with control unit 50 via network 40.

In regard to claims 28 and 30-31, Knight further discloses that the control unit calculates, based on the time differences of propagation of each pulse between the space platform and a corresponding fixed base, for consecutive pulses, the equation of motion of the space platform (col. 6, line 62 to col. 7, line 11; col. 7, lines 36-50).

Allowable Subject Matter

5. Claim(s) 2, 7-13, 18-21, 24-27, 29, and 32 would be allowable if amended to overcome the objection(s) set forth in this Office action, and if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments on p. 17, with respect to various objection(s), have been fully considered and are persuasive. The objections have been withdrawn.

7. Applicant's arguments on p. 17-18, with respect to various 35 USC 112 rejection(s), have been fully considered and are persuasive. The rejection(s) have been withdrawn.

8. Applicant's arguments on p. 18-20, with respect to the rejection(s) over Chang have been fully considered but they are not persuasive.

Applicant argues that the bases of Chang are not fixed (p. 19, final ¶). However, Chang specifically discloses them being fixed: "A secondary RN may be any device that includes a transceiver, such as, for example, automobiles, mobile telephones, aircraft, or the like, as long as they are stationary during operation of the present invention." (col. 3, lines 14-19; emphasis added). "... RNs fixed to the surface of the Earth" (col. 12, lines 21-22; emphasis added). Note that the claim language does not state that the bases must be permanently fixed, just that they are fixed. Also note that the portions of Chang that applicant cites to support the fact that the bases of Chang are sometimes mobile are examples: "A secondary RN may be any device that includes a transceiver,

such as, for example, automobiles, mobile telephones, aircraft, or the like, as long as they are stationary during operation of the present invention.” (col. 3, lines 14-19; emphasis added). Note that the clear and positive statement of Chang is that “a secondary RN may be any device that includes a transceiver” (col. 3, lines 14-19; emphasis added). The universe of devices that include a transceiver includes permanently fixed devices.

Applicant then goes on to describe the invention of Chang as well as applicant’s invention (p. 20, lines 3-12). However, applicant does not point out specific claim language that is not taught by Chang, so it is unclear what application is arguing. Note, for example, that the claims do not include a limitation to a control unit in each base station (p. 20, line 9). In response to applicant’s argument that the references fail to show certain features of applicant’s invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

9. Applicant’s arguments on p. 20-22, with respect to the rejection(s) over Knight have been fully considered but they are not persuasive. However, the rejection(s) of claims 1-2, 4-5, 7-8, 14-18, and 21 have been withdrawn based on the new claim language “a transmitter, installed in at least one of the fixed bases”, added to claim 1, line 9. Knight does not teach the transmitter is installed in at least one of the fixed bases. Claims 22-23, 28, and 30-31 remain rejected.

Applicant argues that the satellites in Knight are not moving (p. 20, final ¶). In support of this assertion, applicant cites col. 1, lines 43-50 (p. 21, line 5). The examiner notes that this reference is to a description of related art patent US 5,008,679, and not to the invention of Knight. The invention of Knight is not limited to geostationary satellites. Applicant admits later that “In Knight and Chang, for determining the position and speed of the satellite ...” (p. 21, 3rd ¶, line 4; emphasis added), where there would be no point in determining the speed of a geostationary satellite, since the speed is known to be zero with regard to the Earth. If the point was to make sure that it was stationary, and that it’s orbit was correct, than the invention would include cases where the satellite was moving, when the invention acts as intended and identifies satellites in an incorrect/moving orbit. Knight refers to determining the velocity of a satellite many times, including in the abstract and in col. 3, lines 34-36.

Applicant then argues that applicant’s invention further is distinguished by immediate position determination, not requiring additional range measurements, and does not require a measurement of range rates (p. 22, 1st ¶). In response to applicant’s argument that the references fail to show certain features of applicant’s invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRED H. MULL whose telephone number is (571)272-6975. The examiner can normally be reached on Monday through Friday from approximately 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarca can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Fred H. Mull
Examiner
Art Unit 3662

/F. H. M./
Examiner, Art Unit 3662

/Thomas H. Tarcza/
Supervisory Patent Examiner, Art Unit 3662